

(e) Mode S Diversity Transmission Channel Isolation: For any class of Mode S transponder that incorporates diversity operation, verify that the RF peak output power transmitted from the selected antenna exceeds the power transmitted from the nonselected antenna by at least 20 db.

(f) Mode S Address: Interrogate the Mode S transponder and verify that it replies only to its assigned address. Use the correct address and at least two incorrect addresses. The interrogations should be made at a nominal rate of 50 interrogations per second.

(g) Mode S Formats: Interrogate the Mode S transponder with uplink formats (UF) for which it is equipped and verify that the replies are made in the correct format. Use the surveillance formats UF=4 and 5. Verify that the altitude reported in the replies to UF=4 are the same as that reported in a valid ATCRBS Mode C reply. Verify that the identity reported in the replies to UF=5 are the same as that reported in a valid ATCRBS Mode 3/A reply. If the transponder is so equipped, use the communication formats UF=20, 21, and 24.

(h) Mode S All-Call Interrogations: Interrogate the Mode S transponder with the Mode S-only all-call format UF=11, and the ATCRBS/Mode S all-call formats (1.6 microsecond P₄ pulse) and verify that the correct address and capability are reported in the replies (downlink format DF=11).

(i) ATCRBS-Only All-Call Interrogation: Interrogate the Mode S transponder with the ATCRBS-only all-call interrogation (0.8 microsecond P₄ pulse) and verify that no reply is generated.

(j) Squitter: Verify that the Mode S transponder generates a correct squitter approximately once per second.

(k) Records: Comply with the provisions of § 43.9 of this chapter as to content, form, and disposition of the records.

[Amdt. 43-26, 52 FR 3390, Feb. 3, 1987; 52 FR 6651, Mar. 4, 1987, as amended by Amdt. 43-31, 54 FR 34330, Aug. 18, 1989]

PART 45—IDENTIFICATION AND REGISTRATION MARKING

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SOURCE: Docket No. 2047, 29 FR 3223, Mar. 11, 1964, unless otherwise noted.

Subpart A—General

§ 45.1 Applicability.

This part prescribes the requirements for—

(a) Identification of aircraft, and identification of aircraft engines and propellers that are manufactured under the terms of a type or production certificate;

(b) Identification of certain replacement and modified parts produced for installation on type certificated products; and

(c) Nationality and registration marking of U.S. registered aircraft.

[Doc. No. 2047, 29 FR 3223, Mar. 11, 1964, as amended by Amdt. 45-3, 32 FR 188, Jan. 10, 1967]

Subpart B—Identification of Aircraft and Related Products

§ 45.11 General.

(a) *Aircraft and aircraft engines.* Aircraft covered under § 21.182 of this chapter must be identified, and each person who manufactures an aircraft engine under a type or production certificate shall identify that engine, by means of a fireproof plate that has the information specified in § 45.13 of this part marked on it by etching, stamping, engraving, or other approved method of fireproof marking. The identification plate for aircraft must be secured in such a manner that it will not likely be defaced or removed during normal